

Exhibit 1



PubMed

Nucleotide

Protein

Genome



Structure

PMC

Taxonomy

OMIM

My NCBI

[Sign In] [Register]

Books

Search Nucleotide

for

Limits

Preview/Index

History

Clipboard

Go

Clear

Details

Display GenBank(Full)

Show 5

Send to

Range: from 1271567

to 1275901

Show whole sequence

☐ Reverse complemented strand Fe☐ 1: BA000043. Reports *Geobacillus kaust...*[gi:56378377]

Features Sequence

Links

LOCUS BA000043 4335 bp DNA linear BCT 04-DEC-2004
 DEFINITION *Geobacillus kaustophilus* HTA426 DNA, complete genome.
 ACCESSION BA000043 REGION: 1271567..1275901
 VERSION BA000043.1 GI:56378377
 KEYWORDS .
 SOURCE *Geobacillus kaustophilus* HTA426
 ORGANISM *Geobacillus kaustophilus* HTA426
 Bacteria; Firmicutes; Bacillales; Bacillaceae; *Geobacillus*.
 REFERENCE 1
 AUTHORS Takami,H., Takaki,Y., Chee,G.J., Nishi,S., Shimamura,S., Suzuki,H.,
 Matsui,S. and Uchiyama,I.
 TITLE Thermoadaptation trait revealed by the genome sequence of
 thermophilic *Geobacillus kaustophilus*
 JOURNAL (er) Nucleic Acids Res. 32 (21), 6292-6303 (2004)
 PUBMED 15576355
 REFERENCE 2 (bases 1 to 4335)
 AUTHORS Takami,H., Takaki,Y. and Chee,G.
 TITLE Direct Submission
 JOURNAL Submitted (25-JUN-2003) Hideto Takami, Japan Marine Science and
 Technology Center, Microbial Genome Analysis Research Group; 2-15
 Natsushima-cho, Yokosuka, Kanagawa 237-0061, Japan
 (E-mail:takamih@jamstec.go.jp,
 URL:http://www.jamstec.go.jp/jamstec-e/bio/exbase.html,
 Tel:81-46-867-9643, Fax:81-46-867-9645)
 FEATURES
 source
 Location/Qualifiers
 1..4335
 /organism="Geobacillus kaustophilus HTA426"
 /mol_type="genomic DNA"
 /strain="HTA426"
 /isolation_source="isolated from the deepest Ocean"
 /db_xref="taxon:235909"
 /note="thermophile"
 gene
 1..4335
 /gene="polC"
 /locus_tag="GK1258"
 CDS
 1..4335
 /gene="polC"
 /locus_tag="GK1258"
 /EC_number="2.7.7.7"
 /codon_start=1
 /transl_table=11
 /product="DNA-directed DNA polymerase III alpha chain"
 /protein_id="BAD75543.1"
 /db_xref="GI:56379635"
 /translation="MMLRGEQTDVMVTKEQKERFLILLEQLKMTSDEWMPHFREAAIR
 KVVLDKKEKSWHFYFQFDNVLVPVHVYKTFADRLQTAFRHIAAVRHTMEVEAPRVTEAD
 VQAYWPLCLAELOEGMSPLVDWLSRQTPELKGKLLVVARHEAEALAIKRRFAKKIAD

VYASFGFPPLQLDVSVEPSKQEMEQFLAQKQQRDEERALAVLTDLAREEEKAASAPPS
GPLVIGYPIRDEEPVRRLETIVEEBERRVVVQGYVFDVSELKSGRTLLTMKITDYTN
SILVKMFSRDKEDAELMSGVKKGMVVKVRSVQNDTFVRDLVLIANDLNETAANERQD
TAPEGEKRVELHLHTPMSQMDAVTSVTKLIEQAKKWGHFAIAVTDHAVVQSFPPEAYSA
AKKHGMKVIYGLEANIIVDDGVPIAYNETHRRRLSEETYVVFVDETGLSAVYNTIIELA
AVKVKDGEIIDRFMSFANPGHPLSVTTMELTGITDEMVKDAPKPDVFLARFVDWAGDA
TLVAHNASFDIGFLNTGLARMGRGKIANFVIDTLELARFLYFDLKNHRLNTLCKKFDI
ELTQHHRAIYDAEATGHLLMRLLKEAEERGILFHDENSRTHSEASYRLARPFFHVTL
AQNETGLKNLFKLVSLSHIQYFHRVPRI PRSVLVKHRDGLLVGSGCDKGELFDNLIQK
APEEVEDIARFYDFLEVHPPDVYKPLIEMDYVKDEEMIKNIIRSIVALGEKLDIPVVA
TGNVHYLNPEDKIYRKILHSQGGANPLNRHELDPVYFRTTNEMLDCFSFLGPEKAKE
IVVDNTQKIASLIGDVKPIKDELYTPRIEGADEEIREMSYRRAKETIYGDPLPKLVEER
LEKELKSTIGHGFAVIYLI SHKLVKKSIDDGYLVGSRGSGVSSFVATMTETEVNPLP
PHYVCPNCKHSEFFNDGSGVSGFDLPDKNCPROGTYKKDGHDI PFETFLGFGKDKVP
DIDLNFSGEYQPRAHNYTKVLFEGEDNVYRAGTIGTVADKTAYGEVKAASDHNLERG
AEIDRLAAGCTGVKRTTGQHPGGIIVVPDYMEIYDFTPIQYPADDTSSSEWRTHDFH
SIHDNLLKLDILGHDDPTVIRMLQDLGIDPKTIPTDDPDVMGIFSSTEPLGVTPEQI
MCNVGTIGIPEFGTRFVRQMLEETRPKTFSELVQISGLSHGTDVWLGN AQELIQNGTC
TLSEVIGCRDDIMVYLIYRGLEPSLAFKIMESVRKKGKLTPEFEAEMRKHDVPEWYID
SCKKIKYMFPAHAAAAYVLMVRIAYFKVHHPLLYASYFTVRAEDFDLDAMIKGSAA
IRKRIEINAKGIQATAKEKSLTVLEVALEMCERGFSFKNIDLYRSQATEFVIDGNS
LIPFNAIPGLGTNVAQAIVRAREEGEFLSKEDLQQRGKLSKTLLEYLESRGCLDSL
DHNQLSLF"

ORIGIN

```
1 atgatgttga gaggggaaca aacggacgtc atggtgacaa aagagcaaaa agagcggttt
61 ctcatcctgc ttgagcagct gaagatgacg tggagcgaat ggatgccgca ttttcgtgag
121 gcagccattc gcaaagtcgt gatcgataaa gaggagaaaa gctggcattt ttattttcag
181 ttogacaacg tgctgccggt tcatgtatac aaaacgtttg ccgatcggct gcagacggcg
241 ttccgccata tggccgcgct ccgccatacg atggaggteg aagcgcgcg cgttaactgag
301 gcggtatgtc aggcgtattg gccgctttgc cttgccgagc tgcaagaagg catgtcgcgc
361 cttgtcgatt ggctcagcgc gcagacgcct gagctgaaag gaaacaagct gottgtcggt
421 gcccgcctat aagcgggaagc gctggcgatc aaacggcggt tggccaaaaa aatcgtgat
481 gtgtacgctt cgtttgggtt cccccccctt cagcttgacg tcagcgtcga gccgtccaag
541 caagaaatgg aacagttttt ggcgcataaa cagcaagagg acgaagagcg agcgtttgct
601 gtactgaccg atttagcgag ggaagaagaa aaggccgcgt ctgcgcgcgc gtcgggtccg
661 cttgtcatcg gctatccgat ccgcgacgag gagccgggtc ggcggcttga aacgatcgtc
721 gaagaagagc ggcgcgtcgt tgtgcaaggc tatgtatttg acgccgaagt gagcgaatta
781 aaaagcggcc gcacgctggt gaccatgaaa atcaccgatt acacgaactc gattttagtc
841 aaaatggtct cgcgcgacaa agaggacgcc gagctcatga gcggcgctca aaaaggcatg
901 tgggtgaaag tgcgcggcag cgtgcataaa gatacgttcg tccgtgattt ggtcatcac
961 gccaacgatt tgaacgaaat cgccgcaaac gaacggcaag atacggcgcc ggaaggggaa
1021 aaaagggtcg agtccattt gcataccccg atgagccaaa tggacgcggt caccctcggg
1081 acaaaaactca ttgagcaagc gaaaaaatag gggcatccgg cgatcgccgt caccgacct
1141 gccgttgttc agtcgtttcc ggaggccctc agcgcggcga aaaaacacgg catgaaggct
1201 atttacggcc ttgaggcgaa catcgtcgac gatggogtgc cgatcgcta caatgaaaog
1261 caccgcgcgc tttcggagga aacgtacgtc gtotttgacg tcgagacgac gggcctgtcg
1321 gctgtgtaca atacgatcat tgagctggcg gcggtgaaag tgaaagacgg cgagatcate
1381 accggttca tgtcgtttgc caaccctgga catcogttgt cagtgaacac gatggagctg
1441 actgggatca ccgatgagat ggtgaaagac gccccgaagc cggacgaggt gctagccgt
1501 tttgttgact gggccgcga tgcgacgctt gttgcccaca acgocagctt tgacatcggg
1561 tttttaaaca cgggcctcgc tcgcatgggg cgccgcaaaa tcgcgaatcc agtcatcgat
1621 acgctcgagc tggcccggtt tttatacccg gatttgaaaa accatcggct caatacattg
1681 tgcaaaaaat ttgacattga attgacgcag catcacgcg ccatctacga cgcggaggcg
1741 accgggcatt tgcattatgc gctgttgaag gaagcggag agcgcggcat actgtttcat
1801 gacgaattaa acagccgcac gcacagcgaa gcgtccatc ggcttgccgc cccgttccat
1861 gtgacgctgt tggcgcaaaa cgagactgga ttgaaaaatt tgttcaagct tgtgtcattg
1921 tgcacatto aatattttca ccgtgtgcgc gcacccgcgc gctccgtgct cgtcaagcac
1981 cgcgacggcc tgcgtgtcgg ctccgggtgc gacaaaggag agctgtttga caacttgatc
2041 caaaaggcgc cggaagaagt cgaagacatc gcccggtttt acgattttct tgaagtgcac
2101 ccgcccggacg tgtacaagcc gctcatcgag atggattatg tgaaagacga agagatgatc
2161 aaaaacatca tccgcagcat cgtccgcctt ggtgagaagc ttgacatccc ggtgtgcgc
2221 actggcaacg tccattactt gaaccagaa gataaaattt accggaaaaa cttaatccat
2281 tgcgaaggcg gggcgaaatcc gctcaaccgc catgaactgc cggatgtata tttccgtacg
```

```
2341 acgaatgaaa tgccttgactg cttctcgttt ttagggccgg aaaaagcgaa gaaaatcgtc
2401 gttgacaaca cgcaaaaaat cgcttcgtta atcggcgatg tcaagccgat caaagatgag
2461 ctgtatacgc cgcgcacatga agggcgcgac gaggaatca gggaaatgag ctacggcgcg
2521 gcgaaggaaa tttacggcga cccgttgccg aaacttggtg aagagcggtc tgagaaggag
2581 ctaaaaagca tcacggcca tggctttgcc gtcatttatt tgatctcgca caagcttggtg
2641 aaaaaatcgc tcgatgacgg ctaccttgtc gggcgcgcg gatcggtcgg ctcgctggtt
2701 gtgcgcagca tgacggaaat caaccgaggtc aatccgctgc cgcgcatta cgtttgccca
2761 aactgcaagc attcggagtt ctttaacgac ggttcagtcg gctcagggtt tgatttgccg
2821 gataaaaaact gcccgcgatg tggaaacgaa tacaagaaag acgggcacga catcccggtt
2881 gagcgtttc tcggctttaa agcgacaaa gtgcccggata tcgacttgaa cttttccggc
2941 gaataccagc cgcgcgcacca caactatacg aaagtgcgtg ttggcgaaga caacgtctac
3001 cgcgcgcgga cgattggcac ggtcgctgac aaaaacggcg acggatttgc caaagcgtat
3061 gcgagcgacc ataacttaga gctgcgcggc gcggaatcg accggctcgc ggtcggtcgc
3121 accgggggtg agcggacgac cggacagcat cccggcgcca tcacgctcgt ccttgattat
3181 atggaaaattt acgattttac gccgattcaa tatccggcgg atgacacgtc ctctgaatgg
3241 cggacgaccc atttcgactt ccattcgatc caagacaatt tgttgaagct cgatattctc
3301 gggcacgacg atccgacggg cattcgcatg ctgcaagatt taagcggcat cgatccgaaa
3361 acgatccgca ccgacgaccc ggatgtgatg ggcattttca gcagcacga gccgcttggc
3421 gttacgcggg agcaaatcat gtgcaatgtc ggcacgatcg gcattccgga gtttggcacg
3481 cgcttgcgtt gacaaatggt ggaagagaca aggccaaaaa cgttttcoga actcgtgcaa
3541 atttcgggtt tgcgcacggc caccgatgtg tggctcggca acgcgcaaga gctcattcaa
3601 aacggcacgt gtaogttatc ggaagtcacg ggtgcgcgg acgacattat ggtctatttg
3661 atttacgcgg ggtcgagccc gtcgctcgct tttaaaatca tggaaatccg gcgcaaagga
3721 aaaggcttaa ccgcggaggt tgaagcagaa atgcgcaaac atgacgtgac ggagtggtag
3781 atcgattcat gcaaaaaaat caagtacatg ttcccgaaag cgcacgcgc cgcctacgtg
3841 ttaatggcgg tgcgcacgac ctactttaag gtgcaccatc cgtttttgta ttacgcgtcg
3901 tactttacgg tgcggcgga ggactttgac cttgacgcca tgatcaaagg atcagccgcc
3961 attcgcaagc ggattgagga aatcaacgcc aaaggcattc aggcgacggc gaaagaaaaa
4021 agcttgctca cggttcttga ggtggcctta gagatgtgag agcgcggtt ttcctttaaa
4081 aatatcgatt tgtaccgctc gcaggcgacg gaattcgtca ttgacggcaa ttctctcatt
4141 ccgccgttca acgccattcc ggggcttggg acgaacgtgg cgcaggcgat cgtgcgcgct
4201 cgcgaggaag gtgagttttt gtogaaggag gatttgcaac agcgcggcaa attgtcgaaa
4261 acgctgctcg agtatctaga aagcgcggc tgccttgact cgcttcaga ccataaccag
4321 ctgtcgctgt tttag
```

//

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Aug 15 2006 13:27:38